

REMARKS

Claims remaining in the present patent application are numbered 1-24. The rejections and comments of the Examiner set forth in the Office Action dated March 23, 2006 have been carefully considered by the Applicant. Applicant respectfully requests the Examiner to consider and allow the remaining claims.

35 U.S.C. §102 Rejection

The present Office Action rejected Claims 1, 2, 5-11, 14-17, and 20-24 under 35 U.S.C. 102(b) as being anticipated by Frink (U.S. Patent No. 6,134,607). Applicant has reviewed the above cited reference and respectfully submits that the present invention as recited in Claims 1-24, is neither anticipated nor rendered obvious by the Frink reference.

Independent Claims 1, 10, and 16

Applicants respectfully point out that independent Claim 1, 10 and 16 each recite that the present invention includes, in part:

wherein said sequentially searching is performed in response to receiving only an interrupt indicating only that data has been stored in said plurality of buffers . . .

The present invention pertains to a synchronizing a software buffer index with an unknown hardware buffer index. In particular, independent Claims 1, 10, and 19 recite that a search is performed in response to receiving only an interrupt that indicates that data has been stored in a plurality of buffers. No other information is received.

Applicant respectfully notes that the prior art Frink reference does not teach nor suggest the present method and system for synchronizing two buffer indexes that comprises, in particular, performing a sequential search in response to receiving only an interrupt signal, as claimed in independent Claims 1, 10 and 16 of the present invention.

In contrast to independent Claims 1, 10, and 16 of the present invention, the Frink reference discloses a method and apparatus for controlling data flow between devices connected by a memory. In particular, the Frink reference teaches that a control channel between a first DMA device 16 and a second DMA device 18 is used to communicate information between the first DMA device 16 and the second DMA device 18. For instance, the control channel communicates between the control devices (DMA devices) an indication of an amount of data written into the memory. Also, the control channel communicates between the control devices an indication of an amount of data read from the memory. (See ll. 51-65, col. 2. of the Frink reference).

In addition, the Frink reference teaches that the control channel communicates the availability of valid data in the memory by providing the last address in which the first DMA engine 16 has written data. That is, this information limits any read operation up to and including that last address. In addition, the DMA engine 18 also returns the address at which it stops reading. That is, this information limits any write operation to those addresses up to and including this read limit pointer. Furthermore the Frink reference also communicates the amount of data that is written to or read from the memory. In summary, the Frink reference teaches that control information is transferred between the DMA engines 16 and 18 indicating addresses where the data is stored in memory, and indicating addresses where data has been read in the memory.

The present invention, on the other hand, claims a method and system for synchronizing a software buffer index with an unknown hardware buffer index. In particular, embodiments of the present invention perform a sequential search through a plurality of buffers containing data in response to receiving only an interrupt indicating only that data has been stored in the plurality of buffers, as recited in independent Claims 1, 10, and 16. That is, the only information received is the interrupt indicating that data has been stored. No other information is communicated

between the LAN hardware and the software driver in order to reset the software buffer index to the next available buffer containing unprocessed data. In that way, a software buffer index is synchronized with an unknown hardware buffer index.

On the other hand, the Frink reference teaches away from embodiments of the present invention. Instead of only communicating that data has been stored through and interrupt, as recited in independent Claims 1, 10, and 16 of the present invention, the Frink reference teaches that control information indicating more than that data is stored in memory is transferred between the DMA engine 16 and DMA engine 18. Specifically, the Frink reference teaches that information containing memory addresses in which the DMA engine 16 has written data into is transferred to the DMA engine 18 to be read is communicated between the DMA engines 16 and 18. Also, the Frink reference also teaches that memory addresses in which the DMA engine 18 has read data is also transferred back to the DMA engine 16, so that those memory addresses are available for data to be written into. Also, the amount of data that the DMA engine 16 has written into the memory is also communicated between the DMA engines 16 and 18. As such, the Frink reference teaches that numerous pieces of information indicating which memory addresses have been written to and read from are necessary for controlling the reading and writing of data into a memory. This is in direct contrast to embodiments of the

present invention in which only an interrupt that indicates that data has been written into a plurality of buffers is necessary for resetting a software buffer index to the next available buffer having processed data in order to synchronize a software buffer index with an unknown hardware buffer index, as is recited in independent Claims 1, 10, and 16 of the present invention.

Thus, Applicants respectfully submit that the present invention as disclosed in independent Claims 1, 10 and 16 is not anticipated by the Frink reference, and are in a condition for allowance. In addition, Applicants respectfully submit that Claims 2-9 which depend from independent Claim 1 are also in a condition for allowance as being dependent on an allowable base claim. Also, Applicants respectfully submit that Claims 11-15 which depend from independent Claim 10 are also in a condition for allowance as being dependent on an allowable base claim. Further, Applicants respectfully submit that Claims 17-24 which depend from independent Claim 16 are also in a condition for allowance as being dependent on an allowable base claim.

35 U.S.C. §103 Rejection

The present Office Action rejected Claims 3 and 18 under 35 U.S.C. 103(a) as being unpatentable over Frink in

10019681-1

Examiner: Lee, C.

14      Serial No.: 10/072,358  
Group Art Unit: 2181

view of Cromer et al. (U.S. Patent No. 5,860,001). Also, Claims 4, 13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frink in view of Chen et al. (U.S. Patent No. 6,470,463). Also, Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frink in view of "Wikipedia: Device Driver". Applicants have reviewed the above cited references and respectfully submit that the present invention as recited in the aforementioned claims is neither anticipated nor rendered obvious by the Yokota et al. reference taken alone or in combination with the Cromer et al., Chen et al., and "Wikipedia: Device Driver" references.

Applicants respectfully submit that the present invention as disclosed in dependent Claims 3, 4, 12, 13, 18, and 19 are not anticipated by the Frink reference, taken alone or in combination with the Cromer et al., Chen et al., and "Wikipedia: Device Driver" references since they depend on allowable base Claims 1, 10, and 16, as previously discussed. As such, dependent Claims 3, 4, 12, 13, 18, and 19 are in a condition for allowance as being dependent on corresponding allowable base claims, 1, 10, and 16.

CONCLUSION

In light of the amendments and arguments presented herein, Applicant respectfully requests reconsideration of the rejected Claims for allowance thereof.

Based on the arguments presented above, Applicant respectfully asserts that Claims 1-24 overcome the rejections of record. Therefore, Applicant respectfully solicits allowance of these Claims.

The Examiner is invited to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,  
Wagner, Murabito & Hao LLP

Date: 6/21/06

  
John P. Wagner Jr.  
Reg. No.: 35,398  
Two North Market Street  
Third Floor  
San Jose, California 95113